

Work Order ID 75833

75833

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Tuesday, November 01, 2011 10:56:15 AM

Item ID: D6102-010 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet
 Start Date: 11/1/2011 Start Qty: 60.00 ***60*** Cust Item ID:
 Required Date: 11/25/2011 Req'd Qty: 60.00 ***60*** Customer:
 Reference:

Approvals: Process Plan: MF Date: 11-11-01 Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6102	Rev D

100 PURCHASING 0.00
100
 Purchasing
 Purchasing
 Memo
 Issue P/O: 15327 a) Description: Aluminum Billetb) 7.950" x*
 8.250" x 2.500" thickc) Tolerance on all dimensions is +0.06/0.00d) Grain
 direction along 7.950" lengthe) Material: 6061-T6/T6511 (QQ-A-250/11 or
 QQ-A-200/8)Material release certifi

60 11/11/01 60

110 Receive & Inspect for Damage & Mat'l Certs 0.00
110
 Packaging
 Packaging
 Memo
 Ensure material certification is attached

60 11/11/11 60

120 QC6- Inspect dimensions to drawing 0.00
120
 QC
 Quality Control
 Memo
 Check certification to Dwg D6102 for compliance

60 11/11/14 60

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>14T 96</u> Memo	0.00 0.00		<u>10/11/14</u>		<u>60</u>	<u>5</u>		
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							<u>11/11/15</u> 

01/11-14
40

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

Tuesday, November 01, 2011 10:56:14 AM

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Work Order ID: 75833

Parent Item: D6102-010

Parent Item Name: Saddle Billet

Start Date: 11/1/2011

Required Date: 11/25/2011

Start Qty: 60.00

Required Qty: 60.00

Comments: IPP A04.08.19New issueKJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-010P 6061-T6 8.25x7.95x2.5		Purchased	No			110	Each	0.0000	1	60			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

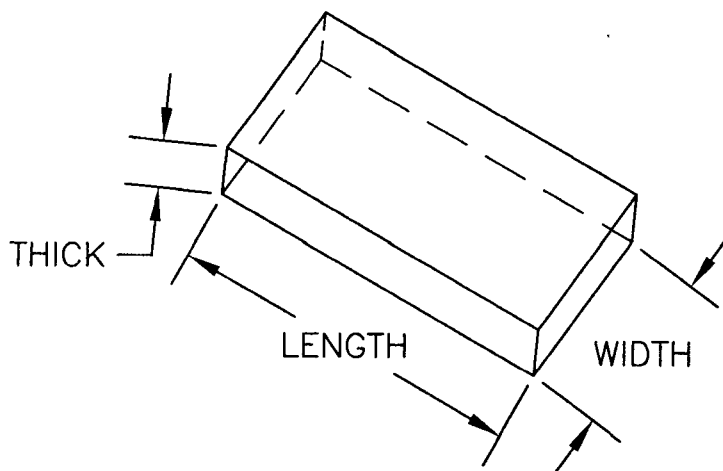
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NOTE: Date & initial all entries

DART

DESIGN #	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D6102	Rev. D SHEET 1 OF 1
DATE 06.06.30		TITLE SADDLE BILLET, 6061	SCALE NTS
A	01.03.30	NEW ISSUE	
B	03.10.20	ADD D6102-005/-007/-009	
C	04.08.25	ADD D6102-010/-011	
D	06.06.30	ADD D6102-013	

SPECIFICATION CONTROL DRAWING



#75833

RELEASED

06.08.15 #

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6102-001	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.880	6.250	2.000	Along 7.880 Length
D6102-003	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.000	6.250	2.000	Along 6.000 Length
D6102-005	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	47.85	15.250	1.000	Along 47.85 Length
D6102-007	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.500	7.000	2.500	Along 7.500 Length
D6102-009	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	11.000	6.000	5.000	Along 11.000 Length
D6102-010	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.950	8.250	2.500	Along 7.950 Length
D6102-011	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	8.250	2.500	Along 6.500 Length
D6102-013	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	7.000	2.000	Along 6.500 Length

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Shipment No:1057879

Ship From: A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 09-NOV-2011	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 1057879-2	

Shipment Details	Final Destination Branch - MON
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Order No 1806491	Line No 1	Item No 14670.MO	Description 2.5000.PL.6061.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.95")) X 7.95 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.95")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/11				
Purchase Order No 15327		Part Number YOUR ITEM NUMBER: D6102-010		Ordered Qty 60.00 PCS		Invoice Qty 60 PCS ✓	
Details		SHIP AS SOON AS POSSIBLE					
Delivery No. 103011386	Mill	Heat Number 511592A8	Mech Id	PCS 60	Width (IN)	Length (IN)	Shipped Qty(LBS) 987.28

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

Name:

SHIP TO:
AM CASTLE & CO
3400 NO WOLF ROAD
FRANKLIN PARK, IL 60131

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4227455

SOLD TO:
AM CASTLE & CO- SOLD TO
1420 KENSINGTON RD
SUITE 220
OAK BROOK, IL 60523

CUSTOMER PO NUMBER: 109372		WORK PACKAGE:	CUSTOMER PART NUMBER: 14670 AMC A96061-162		SHIP RUN/LOAD: 102059/16	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1116416	LINE ITEM: 2	SHIP DATE: 25-MAY-2011	ALLOY: 6061	CLAD: BARE	TEMPER: T651	PRODUCT DESCRIPTION: KaiserSelect® Precision Plate
WEIGHT SHIPPED: 10412 LB	QUANTITY: 6 PCS EST.	B/L NUMBER: 2032187	GAUGE: 2.5000 IN	DIAMETER/WIDTH: 48.500 IN	LENGTH: 144.500 IN	

Certified Specifications

AMS 4027/RevN

ASME SB 209/Rev2004

ASTM B 209/Rev07

Test Code: 1511

Test Results

Lot: 511592A8 Cast 049 Drop 56 Ingot 2 Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	49.4 : 49.7 (341 : 343)	44.9 : 45.1 (310 : 311)	12.7 : 13.6

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.75	0.5	0.34	0.07	1.1	0.18	0.07	0.03	0.01	0.00	TOT 0.08

Lot: 511673A6 Cast 049 Drop 51 Ingot 2 Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	49.5 : 49.6 (341 : 342)	44.8 : 44.9 (309 : 310)	13.4 : 13.5

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.72	0.5	0.30	0.07	1.0	0.19	0.08	0.03	0.01	0.00	TOT 0.08

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4227455

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
6061												
MIN	0.40	0.0	0.15	0.00	0.8	0.04	0.00	0.00	0.00	0.00	EACH	0.05
MAX	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder

TEST NOTES

6061 sheet or plate certified to AMS 4025, AMS 4026, or AMS
4027 also meets applicable requirements of AMS-QQ-A-250/11
Rev.A.

Castle Metals FP

HEAT NUMBER 51159248
MECHANICAL ID _____
ITEM CODE 14670
LOT NUMBER _____
PO NUMBER 109372
RECEIPT DATE 6-6-2011
SUPPLIER KAISER
SPECIFICATION _____
LCS RV
COMMENT _____
APPROVED DL

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTIRE ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.



BILL POYTOR, LABORATORIES SUPERVISOR

